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CLAIMS

1. A magnetic material detection device

5 wherein a magnet displaceable in the direction of magnetic poles and  
detecting means for detecting displacement of the magnet are set such that the  
boundary of north and south poles of said magnet crosses the operating point of said  
detection means after displacement, and

10 wherein the magnetic material detection device detects that a magnetic  
material located outside the magnetic material detection device body is located  
within a predetermined distance from said magnetic material detection device  
body.

15 2. A magnetic material detection device according to claim 1 comprising  
returning means for returning the magnet to the position before displacement ,when  
it is located far from the predetermined distance after the magnetic material is  
located to the predetermined distance.

20 3. A magnetic material detection device according to claim 1 comprising an  
elastic body whose one end is connected to the magnet side and whose other end is  
connected to the magnetic material detection device body.

25 4. A magnetic material detection device according to claim 1 wherein a  
supporting member whose one end is connected to the magnet side and whose other end  
is connected to second magnet which is different from said magnet, such that the second  
magnet locates near a path of the magnetic material.

5. A magnetic material detection device according to claim 1 wherein the  
configuration of the magnet is any one of a cube, a rectangular solid, a cylinder or a pipe.

30 6. A mobile object detection system comprising the magnetic material  
detection device according to claim 1 and an mobile object comprising the  
magnetic material.